

# PATENT COOPERATION TREATY

## PCT

**COMMUNICATION IN CASES FOR WHICH  
NO OTHER FORM IS APPLICABLE**

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ETATS-UNIS D'AMERIQUE

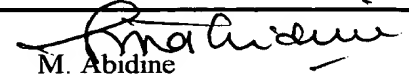
Date of mailing ( <i>day/month/year</i> ) 23 July 1997 (23.07.1997)	
Applicant's or agent's file reference 06765/008W01	<b>REPLY DUE</b> see paragraph 1 below
International application No. PCT/US97/07317	International filing date ( <i>day/month/year</i> ) 30 April 1997 (30.04.1997)
Applicant <div style="text-align: center;">DUKE UNIVERSITY</div>	

1. ☐ REPLY DUE within \_\_\_\_\_ months/days from the above date of mailing
- ☐ NO REPLY DUE, however, see below
- ☐ IMPORTANT COMMUNICATION
- ☐ INFORMATION ONLY

2. COMMUNICATION:

The attention of the receiving Office is drawn to fact that the power of attorney signed by DUKE UNIVERSITY does not state the agent appointed in BOX IV of the request form, (ie) MEIKLEJOHN, Anita , L.

New Power of attorney appointing MEIKLEJOHN, Anita, L. is required.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. (41-22) 740.14.35	Authorized officer  M. Abidine  Telephone No. (41-22) 338.83.38
--	---

## INTERNATIONAL SEARCH REPORT

 International application No.  
 PCT/US97/07317
**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : C12N 5/10, 15/87, 15/88

US CL : 435/325; 424/93.21

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/325; 424/93.21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, STN

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KIM, et al. Interleukin-secreting Mouse Fibroblasts Transfected with Genomic DNA from Murine Melanoma Cells Prolong the Survival of Mice with Melanoma. Cancer Research. 15 May 1994, Vol 54, pages 2531-2535, see entire document.	1-53
Y	BHOOPALAM et al. Surface Immunoglobulins of Circulating Lymphocytes in Mouse Plasmacytoma. II. The Influence of Plasmacytoma RNA on Surface Immunoglobulins of Lymphocytes. Blood. April 1972, Vol. 39, No. 4, pages 465-471, see entire document.	1-32, 44-49, 51-53

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	*T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A document defining the general state of the art which is not considered to be of particular relevance	*X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E earlier document published on or after the international filing date	*Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z document member of the same patent family
*O document referring to an oral disclosure, use, exhibition or other means	
*P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

09 JUNE 1997

Date of mailing of the international search report

26 JUN 1997

 Name and mailing address of the ISA/US  
 Commissioner of Patents and Trademarks  
 Box PCT  
 Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

MATTHEW LATIMER

Telephone No. (703) 308-0196

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US97/07317

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim N .
Y	<p>VILLARREAL, L.P. et al. Common Mechanisms of Transformation by Small DNA Tumor Viruses. Washington, D.C.: American Society of Microbiology. 1989, Chapter 1, pages 1-17, see entire document.</p>	33-43, 50-52

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

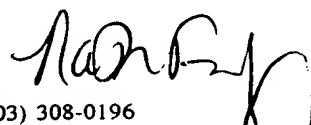
REC'D	10 MAR 1998
WIPO	PCT

Applicant's or agent's file reference 1579-218	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US97/07317	International filing date (day/month/year) 30 APRIL 1997	Priority date (day/month/year) 30 APRIL 1996
International Patent Classification (IPC) or national classification and IPC IPC(6): C12N 5/10, 15/87, 15/88 and US Cl.: 435/325; 424/93.21		
Applicant DUKE UNIVERSITY		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  28 NOVEMBER 1997	Date of completion of this report  18 FEBRUARY 1998
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  IREM YUCEL 
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0196

**I. Basis of the report**

1. This report has been drawn on the basis of (*Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments*):

- ☒ the international application as originally filed.
- ☒ the description, pages 1-31 , as originally filed.  
pages NONE , filed with the demand.  
pages NONE , filed with the letter of \_\_\_\_\_  
pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_
- ☒ the claims, Nos. 1-53 , as originally filed.  
Nos. NONE , as amended under Article 19.  
Nos. NONE , filed with the demand.  
Nos. NONE , filed with the letter of \_\_\_\_\_  
Nos. \_\_\_\_\_ , filed with the letter of \_\_\_\_\_
- ☒ the drawings, sheets/~~fig~~ 1-4 , as originally filed.  
sheets/~~fig~~ NONE , filed with the demand.  
sheets/~~fig~~ NONE , filed with the letter of \_\_\_\_\_  
sheets/~~fig~~ \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

2. The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/~~fig~~ NONE

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US97/07317

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>1-53</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-53</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-53</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-53 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest cells and methods for treating tumors or infections using antigen-presenting cells that are loaded with RNA obtained from the tumor or pathogen. The prior art does not teach nor fairly suggest that these cells may also be used for expansion of CTL in vitro (out of the patient).

----- NEW CITATIONS -----  
NONE